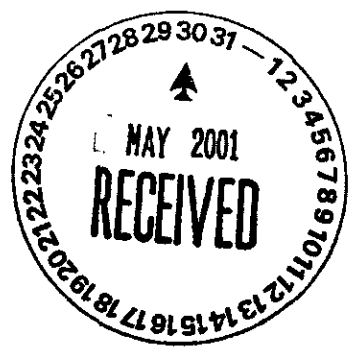
H1333

0055599

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B01-082 H1333

DATE RECEIVED: 04/26/01 LVL LOT # :0104L618

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B11W08						
BARIUM, TOTAL	001	W	01L0258	04/24/01	05/11/01	05/11/01
BARIUM, TOTAL	001 REP	W	01L0258	04/24/01	05/11/01	05/11/01
BARIUM, TOTAL	001 MS	W	01L0258	04/24/01	05/11/01	05/11/01
CADMIUM, TOTAL	001	W	01L0258	04/24/01	05/11/01	05/11/01
CADMIUM, TOTAL	001 REP	W	01L0258	04/24/01	05/11/01	05/11/01
CADMIUM, TOTAL	001 MS	W	01L0258	04/24/01	05/11/01	05/11/01
CHROMIUM, TOTAL	001	W	01L0258	04/24/01	05/11/01	05/11/01
CHROMIUM, TOTAL	001 REP	W	01L0258	04/24/01	05/11/01	05/11/01
CHROMIUM, TOTAL	001 MS	W	01L0258	04/24/01	05/11/01	05/11/01
LEAD, TOTAL	001	W	01L0258	04/24/01	05/11/01	05/11/01
LEAD, TOTAL	001 REP	W	01L0258	04/24/01	05/11/01	05/11/01
LEAD, TOTAL	001 MS	W	01L0258	04/24/01	05/11/01	05/11/01
LAB QC:						
BARIUM LABORATORY	LC1 BS	W	01L0258	N/A	05/11/01	05/11/01
BARIUM, TOTAL	MB1	W	01L0258	N/A	05/11/01	05/11/01
CADMIUM LABORATORY	LC1 BS	W	01L0258	N/A	05/11/01	05/11/01
CADMIUM, TOTAL	MB1	W	01L0258	N/A	05/11/01	05/11/01
CHROMIUM LABORATORY	LC1 BS	W	01L0258	N/A	05/11/01	05/11/01
CHROMIUM, TOTAL	MB1	W	01L0258	N/A	05/11/01	05/11/01
LEAD LABORATORY	LC1 BS	W	01L0258	N/A	05/11/01	05/11/01
LEAD, TOTAL	MB1	W	01L0258	N/A	05/11/01	05/11/01



LIONVILLE LABORATORY INC.

Analytical Report

Client: TNU-HANFORD B01-082
LVL#: 0104L618
SDG/SAF#: H1333/B01-082

W.O.#: 11343-606-001-9999-00
Date Received: 04-26-01

METALS CASE NARRATIVE

1. This narrative covers the analysis of 1 water sample.

2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.

3. All analyses were performed within the required holding times.

4. The cooler temperature has been recorded on the Chain of Custody.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.

10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. All duplicate analyses were within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

14. As of January 27, 2001, Recra LabNet Philadelphia became Lionville Laboratory Incorporated. Some forms may still reference Recra LabNet Philadelphia.

Iain Daniels
Deputy Laboratory Manager
Lionville Laboratory Incorporated

05-29-01
Date

gmb/m04-618

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 0104L018

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: ✓3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B		__200.7				__99
Antimony	__6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	__6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	__6010B		__200.7				__99
Copper	__6010B	__7211 [5]	__200.7	__220.2			__99
Iron	__6010B		__200.7				__99
Lead	✓6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	__6010B		__200.7				__99
Manganese	__6010B		__200.7				__99
Mercury	__7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	__6010B		__200.7				__99
Nickel	__6010B		__200.7				__99
Potassium	__6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	__6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	__6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	__6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	__6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	__6010B		__200.7				__99
Zinc	__6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

RFW 21-21L-033/N-10/96

Lionville Lababoratory, Inc.

INORGANICS DATA SUMMARY REPORT 05/12/01

CLIENT: TNUHANFORD B01-082 H1333 LVL LOT #: 0104L618

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B11W08	Barium, Total	5.1	UG/L	0.20	1.0
		Cadmium, Total	0.30 u	UG/L	0.30	1.0
		Chromium, Total	0.90 u	UG/L	0.90	1.0
		Lead, Total	2.6 u	UG/L	2.6	1.0

Lionville Lababoratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/12/01

CLIENT: TNUHANFORD B01-082 H1333 LVL LOT #: 0104L618

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	01L0258-MB1	Barium, Total	0.20 u	UG/L	0.20	1.0
		Cadmium, Total	0.30 u	UG/L	0.30	1.0
		Chromium, Total	0.90 u	UG/L	0.90	1.0
		Lead, Total	2.6 u	UG/L	2.6	1.0

Lionville Lababoratory, Inc.

INORGANICS ACCURACY REPORT 05/12/01

CLIENT: TNUHANFORD B01-082 H1333 LVL LOT #: 0104L618

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B11W08	Barium, Total	1930	5.1	2000	96.2	1.0
		Cadmium, Total	46.2	0.30u	50.0	92.4	1.0
		Chromium, Total	187	0.90u	200	93.4	1.0
		Lead, Total	463	2.6 u	500	92.5	1.0

Lionville Lababoratory, Inc.

INORGANICS PRECISION REPORT 05/12/01

CLIENT: TNUHANFORD B01-082 H1333 LVL LOT #: 0104L618

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B11W08	Barium, Total	5.1	4.9	4.0	1.0
		Cadmium, Total	0.30u	0.30u	NC	1.0
		Chromium, Total	0.90u	0.90u	NC	1.0
		Lead, Total	2.6 u	2.6 u	NC	1.0

Lionville Lababoratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/12/01

CLIENT: TNUHANFORD B01-082 H1333 LVL LOT #: 0104L618

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	01L0258-LC1	Barium, LCS	4880	5000	UG/L	97.7
		Cadmium, LCS	244	250	UG/L	97.5
		Chromium, LCS	483	500	UG/L	96.6
		Lead, LCS	2400	2500	UG/L	96.0

Lionville Laboratory Use Only
0104L618

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client BECHTEL TNU Hanford B01-082

Est. Final Proj. Sampling Date ~~9-24-01~~

Project # 11343-606-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager O. Johnson

QC Spec Del Std TAT 21 day

Date Rec'd 4-26-01 Date Due 5-17-01

		A
Refrigerator #		3
#/Type Container	Liquid	1P1
	Solid	
Volume	Liquid	500
	Solid	
Preservatives		
ANALYSES REQUESTED → ORGANIC	VOA	
	BNA	
	Pest/PCB	
	Herb	
INORG	Metal	
	CN	
Lionville Laboratory Use Only		Met(1)

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected																
001	B11W08	✓	✓	W	4-24-01	0845																X

Special Instructions:

Met(1): Ba, Cd, Cr, Pb

DATE/REVISIONS:

1. Run Matrix QC
2.
3.
4.
5.
6.

COMPOSITE WASTE

Relinquished by	Received by	Date	Time
FED EX	Carla Hermann	4-26-01	9:35

Relinquished by	Received by	Date	Time
	ORIGINAL		
	REWRITTEN		

Lionville Laboratory Use Only

Samples were: 1) Shipped or Hand Delivered. Airbill # SEE BELOW

2) Ambient or (Chilled)

3) Received in Good Condition (Y) or N

4) Samples Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES: 4235 7954 3933

Tamper Resistive Seal was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample (Y) or N; 4) Unbroken on Sample (Y) or N; COC Record Present Upon Sample Receipt (Y) or N

Cooler Temp. 1

11

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B01-082
Collector: Fahlberg/Watson	Company Contact: Lerch, JA — Telephone No.: 373-5904	Project Coordinator: TRENT, SJ — Price Code: 7L — Data Turn...: 21 Days
Project Designation: JA Jones Verification Sampling - Water	Sampling Location: 100 Areas	SAF No.: B01-082 — Air Quality: ☐
Ice Chest No.: ER-8	Field Logbook No.: EL1517-2 — COA: RJONES2600	Method of Shipment: FED EX
Shipped To: TMA/RECRA	Offsite Property No.: A010242	Bill of Lading/Air Bill No.: 423574545953

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage
Samples did not originate in radiological controlled area. No total activity associated with sample/samples. PT 4-25-01

Preservation	HNO3 to pH <2											
Type of Container	P											
No. of Container(s)	1											
Volume	500mL											
SAMPLE ANALYSIS	See item (1) in Special Instructions.											
Sample No.	Matrix *	Sample Date	Sample Time									
B11W08	WATER	04-24-01	0845	X								

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
B. Fahlberg/R. Fahlberg	4/25/01 0900	Ref 2-B	4/24/01 0900
Ref 2-B 3728	4/25/01 0900	R.L. Thorson	4/25/01 0900
R.L. Thorson	4/25/01 0900	FEDEX	
FEDEX	4-26-01 9:35	Carlos Hamann	4-26-01 9:35

SPECIAL INSTRUCTIONS

(1) ICP Metals - 6010A (TAL) {Barium, Cadmium, Chromium}; ICP Metals - 6010A (Add-on) {Lead}

Samples stored in Ref.# 2B at the 3728 Shipping Facility on 4/24/01. Collector not available to relenquish samples on 4/25/01 for shipment. PT 4/25/01

Matrix *
S Soil
SE Sediment
SO Solid
SL Sludge
W Water
O Oil
A Air
DS Drum Solids
DL Drum Liquids
L Liquid
WI Wipe
I Liquid
V Vegetation
X Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)